

YORK BRIDGE  
FEDERAL AID SECONDARY ROUTE No. 280  
HELENA VICINITY  
LEWIS AND CLARK COUNTY  
MONTANA

HAER No. MT-2

HAER  
MONT,  
25-HEL.V,  
3 -

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
NATIONAL ARCHITECTURAL and ENGINEERING RECORD  
NATIONAL PARK SERVICE  
DEPARTMENT of the INTERIOR  
WASHINGTON, D.C. 20243

NATIONAL ARCHITECTURAL AND ENGINEERING RECORD

YORK BRIDGE

HAER  
MONT,  
25-HELV,  
3-

Location: 15 miles NE of Helena, MT on FAS 280.  
S $\frac{1}{2}$ NW $\frac{1}{4}$ , Sect. 13, T.11 N., R.2 W.

Date of Construction: July (?) - December 1906.  
Reconstruction of west pier, 1908.

Present Owner: Lewis and Clark County  
County Commissioners  
City-County Building  
316 North Park  
Helena, MT 59626

Present Use: Bridge is presently closed to all traffic  
and scheduled for demolition in 1981.

Significance: As a pin-connected Pennsylvania through  
truss structure, the York Bridge is not  
particularly significant for structural  
or engineering reasons. It is, however,  
historically associated with the Helena  
Power Transmission Company and the  
building of the Hauser Dam, which was a  
significant early development in electri-  
fication of the state. Through their  
interest in the Helena Power Transmission  
Company, York Bridge is also historically  
associated with the careers of two promi-  
nent Montana political and economic devel-  
opers, Anton Holter and Samuel Hauser.

Historian: Compiled by K.M. Huppe, DOH Anthropologist,  
from manuscripts and comments provided by  
Fredric L. Quivik, NAER Historian, and  
Peter L. Steere, Historian.  
February, 1981.

York Bridge, originally known as the Trout Creek Bridge, is a three span, pin-connected Pennsylvania through truss structure built in 1906. It was constructed to accommodate traffic previously transported across the Missouri River by various ferries, including one each at Trout Creek and the El Dorado Bar.<sup>1</sup> The bridge was built through the cooperative efforts of the Lewis & Clark County Commissioners - who wanted to bridge the Missouri - and officials of the Helena Power Transmission Company - who had been granted the right to dam the Missouri in order to generate electricity. Minneapolis Steel and Machinery Company of Minnesota was selected to build the structure for a total cost of \$20,000.<sup>2</sup>

The Helena Power Transmission Company (H.P.T. Co.) planned to construct a single facility several miles upstream from the Trout Creek crossing in order to replace several smaller electricity-generating installations on the Missouri River. The planned Hauser Dam would generate power designated primarily to serve the copper smelters operating in Butte and Anaconda. Resultant flooding of existing county roads, however, and need for the county to build a structure capable of spanning the waters of a reservoir rather than a river were expected to substantially increase Lewis & Clark County's bridge construction costs. Consequently, negotiations among representatives of the county and H.P.T. Co. ensued. A compromise was reached and both bridge and dam were constructed in short order.

In 1908, just two years after the completion of York Bridge, Hauser Dam collapsed. The rush of water escaping from Hauser Lake caused extensive scouring beneath one end of the bridge, severely damaging the upstream side of Pier #2. Consulting Engineer G. S. Edmondstone was hired by the county in

1908 to draw up plans for reconstruction of the damaged bridge. Edmondstone recommended utilizing a rocker bent assembly to compensate for loss of elevation of the top of the pier, which had settled nearly six feet (Photo No's. 10, 11; compare with Photo No. 12, which shows original arrangement still in place on eastern pier). The assembly is composed of vertical struts 5'-11" long with pin connections on both the top and bottom. Pier #2 was also stabilized at this time with a massive concrete reinforcement at ground line. These repairs and additional details are illustrated in Edmondstone's plan sheet (Drawing 1). Reconstruction allowed traffic to safely utilize York Bridge for the next 70 years. Lesser scouring activity continued to undermine the west pier during that time, however, eventually causing Pier #2 struts to lean  $4\frac{1}{2}$ " toward the west abutment. According to the inspecting engineer:

"This problem is quite serious as these leaning struts are now exerting a horizontal thrust on the pier in the same direction that the pier has already moved. This could result in pushing the pier to a position that would lead to the collapse of this structure."<sup>3</sup>

Consequently, York Bridge was closed to traffic in 1978. It is scheduled for removal in 1981.

Although its substructure is failing, the York Bridge superstructure is in fair condition. Each span of the structure is 180' long and the whole bridge measures 544'. It is 16' wide throughout (Photo No.'s 1-3). Each truss consists of ten panels, 18' in length (Photo No.'s 2, 3). Lower chords

are forged steel eyebars. The floor system consists of a plank deck resting on 13 lines of timber stringers, all separated by steel I-beam (15I42) floor beams (Photo No.'s 4, 5). Diagonal members are subdivided and are either eyebars or eyebars with turnbuckles (Photo No. 6). Vertical members are subdivided and are either forged eyebar or laced channel sections. Upper chords are continuous steel plates riveted atop channel sections with lacing bars riveted along the bottom flanges (Photo No's. 7, 8). Sway bracing is provided with laced angle sections (Photo No.'s 4, 5, 8). Lower chords are secured to abutments by shoe and pin connections (Photo No. 13 and Drawing 1).

York Bridge gains historical significance from its association with the building of Hauser Dam and the involvement of the Helena Power Transmission Company through the negotiating efforts of two of its officers, Anton Holter and Samuel Hauser. Both Holter and Hauser were prominent Montana businessmen. Holter established the first lumber mill in Montana along the Ruby River in Madison County in 1863.<sup>4</sup> Hauser came to Montana in 1862. He passed several years in the Bannack mines and was a member of James Stuart's Yellowstone Party in 1863. By 1865 Hauser had formed a partnership with Wilbur Fisk Sanders and entered the banking and mining business. They are credited with opening Montana's first smelting furnaces on Rattlesnake Creek. Hauser subsequently organized the First National Bank of Montana in Missoula, Butte and Fort Benton. He and his Saint Louis Mining Company are credited with building the first silver mill in the Territory at Philipsburg. Hauser was also politically powerful, having been appointed governor for the Montana Territory by President Grover Cleveland. Hauser was Montana's Governor from 1885 until 1887, when involvement in personal business ventures left him too little time to continue to serve. Preston H. Leslie succeeded Hauser as Territorial Governor.<sup>5</sup>

In 1905-06, though, Holter and Hauser were formulating plans to dam the Missouri River. At about the same time, Lewis and Clark County Commissioners were becoming aware of transportation problems created by reliance on ferry boat connections across the Missouri between the rapidly expanding mining and ranching areas of the Belt Mountains and the capital city of Helena. Between the spring of 1866 and 1869 the discovery of rich placer mining deposits along Trout Creek had drawn thousands of miners to the area. By mid-1867, the townsite of York had been surveyed two miles north of the present York Bridge location at the junction of Trout Creek and York Gulch. The smaller town of Brooklyn soon sprouted up just across Trout Creek from York.<sup>6</sup> By 1869 several thousand people lived in the area and placer gold production had reach an estimated \$2,000,000.<sup>7</sup>

In less than a decade (by 1874), accessible placer deposits had been largely worked out using drift mining techniques. Between 1888 and 1891, a Mr. F. D. Spratt acquired much of the land around York, formed the Trout Creek Mining Company, and hydraulically reworked York Gulch using water transported into the area by ditches. During the 1880's too, lode mines including the Golden Messenger, the Little Dandy and the Old Amber were opened and developed.<sup>8</sup> Lode deposits occur in quartz diorite dykes which intersect sedimentary formations of the Belt Supergroup and run eastward from a ridge north of York to Avalanche Creek. Production from lode mines in the vicinity of York is estimated to have yielded a minimum of 70,000 ounces of gold.<sup>9</sup>

Minutes of Lewis and Clark County Commission meetings and correspondence collected and on file at the Montana Historical Society provide a record of

the negotiations between county officials and the Helena Power Transmission Company which resulted in their agreement to build York Bridge. During the early months of 1906 Lewis and Clark County Commissioners J. F. Wegner (Chairman), W. O. Hutchinson and O. A. Cory met several times to discuss and examine possible bridge sites, including one at the Trout Creek confluence. Land along Trout Creek from the Missouri to York was owned by Mr. A. N. Spratt of Helena and Mr. William H. Sanborn of Alpena, Michigan in 1906. In March of that year the Commissioners succeeded in convincing these apparently reluctant businessmen that construction and maintenance of a county road to York across Spratt and Sanborn land would not hinder their mining operations. They granted Lewis and Clark County right-of-way for 99 years on March 9, 1906, for the sum of \$1.00.<sup>10</sup>

A letter dated March 8 of the same year from Anton Holter, Vice President of the H.P.T. Co., to company president Samuel Hauser in New York city indicates that by then H.P.T. Co. and the county had already begun to discuss their common interest in the York area. Mr. Holter wrote:

"I have had several consultations with Mr. Wegner (Chairman, County Commissioners of Lewis & Clark County) also Mr. Cory, concerning the roads which they claim the Transmission Company will flood. I had a talk with Wegner of 1½ hours the other day and then an hour this morning. We are getting on very friendly terms, for my principal point is that I am paying about \$10,000 per annum in taxes in this county, and am a small stockholder in the H.P.T. Co., and that it would be to

my advantage to make the Co. pay all the taxes of the county, that is if it could be done and keep on friendly terms with the Company. I told Mr. Wegner this morning that I would do my utmost on your return to have this business compromised in some way, and that I wanted him to think it over some in the meantime and remember that the Missouri river was government property and that the government had given the company the privilege of damming the river and using the power so the company had some rights as well as the ferryman and his boat especially so when the question was only in regard to using the power of the river to drive a boat with or have a man to pull on the line, but we will take this matter up on your return."<sup>11</sup>

By March 23rd Holter was able to report that:

"Yesterday Mr. Gerry (General Manager of the H.P.T. Co.) and I again had a conversation with the County Commissioners and outside of this conference I have had lengthy private talks with each one of them, and they have all been of a very friendly nature. It will not be necessary for me to give you any details as Mr. Gerry promised to attend to this part of it so all I have to say is that I believe that it is for the best interests of the Company for us to accept their proposition of yesterday in regard to the building of the bridge so as to have the roads condemned, etc., all of which I am sure Mr. Gerry will explain to you. It is probably well enough for you



to know that I have also taken an option on Mr. Wegner's interest in the lower dam location."<sup>12</sup>.

The county's proposition was reported to Hauser in a letter from M. H. Gerry dated the same day:

"I had a long conversation with the County Commissioners yesterday, and also talked with all the members of the Board privately. This Board has finally decided to submit this proposition to our Company. A steel bridge, together with approaches to be constructed by this company across the Missouri river, at a point to be selected near Trout Creek. The bridge to be similar both as to material and dimensions to the bridge recently constructed for the county across the river near Craig. The county to pay towards to cost of construction of the bridge the sum of \$9,000.00, and to pay towards the cost of construction of the approaches, \$1,000.00. In other words, our company to construct the bridge and the county to contribute the sum of \$10,000.00 as their part of defraying expenses of such construction. The county commissioners take the position that they were about to construct a bridge at or near this point, and that the cost of such bridge would have been approximately \$10,000.00. By reason of the increase in the depth of the water the cost of both the bridge and approaches has been increased, and it is the idea of the commissioners that they contribute the sum which they estimate as being equal

to what it would have cost to construct the bridge under the original conditions, the company to bear the remaining expense. I am unable to state at this time what the cost of the bridge will be, but believe it will not be less than \$20,000.00 including approaches, and it will probably be between that figure and \$30,000.00. I will have an estimate made. The County Commissioners urge that we advise them of our decision at the earliest possible moment."<sup>13</sup>

Hauser replied in a letter to Holter dated April 1, 1906:

"I received your letter of the 23rd ultimo, from which I was very glad to learn that you had taken an active interest in protecting the property from unnecessary expenditures, and had used your influence with the County Commissioners to that end. I received a letter from Gerry on the same subject, and it seems the County Commissioners have finally proposed to put in a fixed amount of money, and for us to pay the balance of whatever the bridges may cost. Of course, whatever you and Gerry agree upon will be satisfactory but it seems to me it would be better for our Company to pay a fixed amount and let the County construct the bridge, roads, etc. However, you are on the ground and are the best judge."<sup>14</sup>

After deliberating for at least the day of May 9, 1906, the County Commissioners sent a letter to Mr. Gerry containing the following statement of their position on the matter:

". . .as you are aware a very considerable number of people reside beyond the river who have been accustomed to cross at the various ferries, among others, the ferry at Trout Creek, El Dorado Bar, and Rose's ferry. The board has looked forward for some time to the construction of a bridge at Trout creek for the accommodation of the people living in that portion of the county, and those having business in that region, careful estimates available to us lead us to believe that such a bridge could be constructed at a cost not to exceed \$9,000.00. Of course, the expense of constructing a bridge at that point will be very materially enhanced after the region is flooded. Many of the roads will be rendered ineffectual by your improvement and a circuitous route must be pursued in order to get around the flood region on the way to Helena. The construction of roads to accommodate this travel will mean the expenditure of a very considerable amount by the county not to speak of the inconvenience resulting to the travelling public in pursuing a very much the less direct route. We are, however, desirous of seeing your work prosecuted and of acting in such a manner as must convince all that we are sincerely desirous, as we are, of offering no unnecessary obstacles to its successful conduct.

In view of these conditions and others unnecessary to speak of, we respectfully submit to you by this letter as have to heretofore done orally, that we will grant you, so far as

we may, the right to flood the roads of the county as contemplated by your works, without claim for damage, provided you will construct a steel bridge across the Missouri river at Trout Creek with proper approaches and complete the roads on either side leading to the bridge from the flooded district, so that the same will be safe and convenient, for travel, to which work the County will contribute \$10,000.00, or, if you prefer, we will do the work on your agreeing to contribute the actual cost of the same over and above \$10,000.00. However, if we are forced, by your refusal to accept either of the propositions above tendered the fairness and liberality of which can hardly be disputed by you, to fix a price to be paid in lieu of what might be recovered in condemnation proceedings, we shall insist that you pay \$45,000.00 for the privilege asked which sum we are confident will not suffice to restore to the people of the county public roads and bridges equivalent to those which by your operation will be destroyed."<sup>15</sup>

We have no record of the H.P.T. Co's. reply, but must assume it was favorable because the Helena Daily Independent of May 24, 1906 carried a notice of proposals for bidding on the construction of a steel bridge spanning the Missouri River just below the mouth of Trout Creek. Bidding closed June 18th. The minutes of the June 19, 1906 County Commissioner's meeting state:

". . .the bid of the Minneapolis Steel & Machinery Company being the lowest, most suitable, accepted sum of \$20,000.00

for the construction of a steel bridge across the Missouri River at Trout Creek and the contract for the same between the Minneapolis Steel & Machinery Company party of the first part and Lewis & Clark County, Montana, the party of the 2nd part, and the Helena Power Transmission Company, the party of the third part was executed by representatives of the above mentioned parties. The Helena Power Transmission Company is released of all damages."<sup>16</sup>

Mr. D. D. Ostrom of Helena successfully bid \$2,790.00 for building approach roads to the bridge.

During the summer of 1906 all roads in the area were surveyed and platted by the County, and the Commissioners made several trips to the bridge construction site (Steere 1979). On December 1, 1906, minutes of the County Commissioner's meeting record that:

"...the bridge over the Missouri river at Trout Creek was accepted and the clerk ordered to draw a warrant for the same as follows - check #1914 - to Minneapolis Steel & Machinery Company for payment of contract - Trout Creek Bridge - \$9,000.00 less \$1,000.00 bond already held.

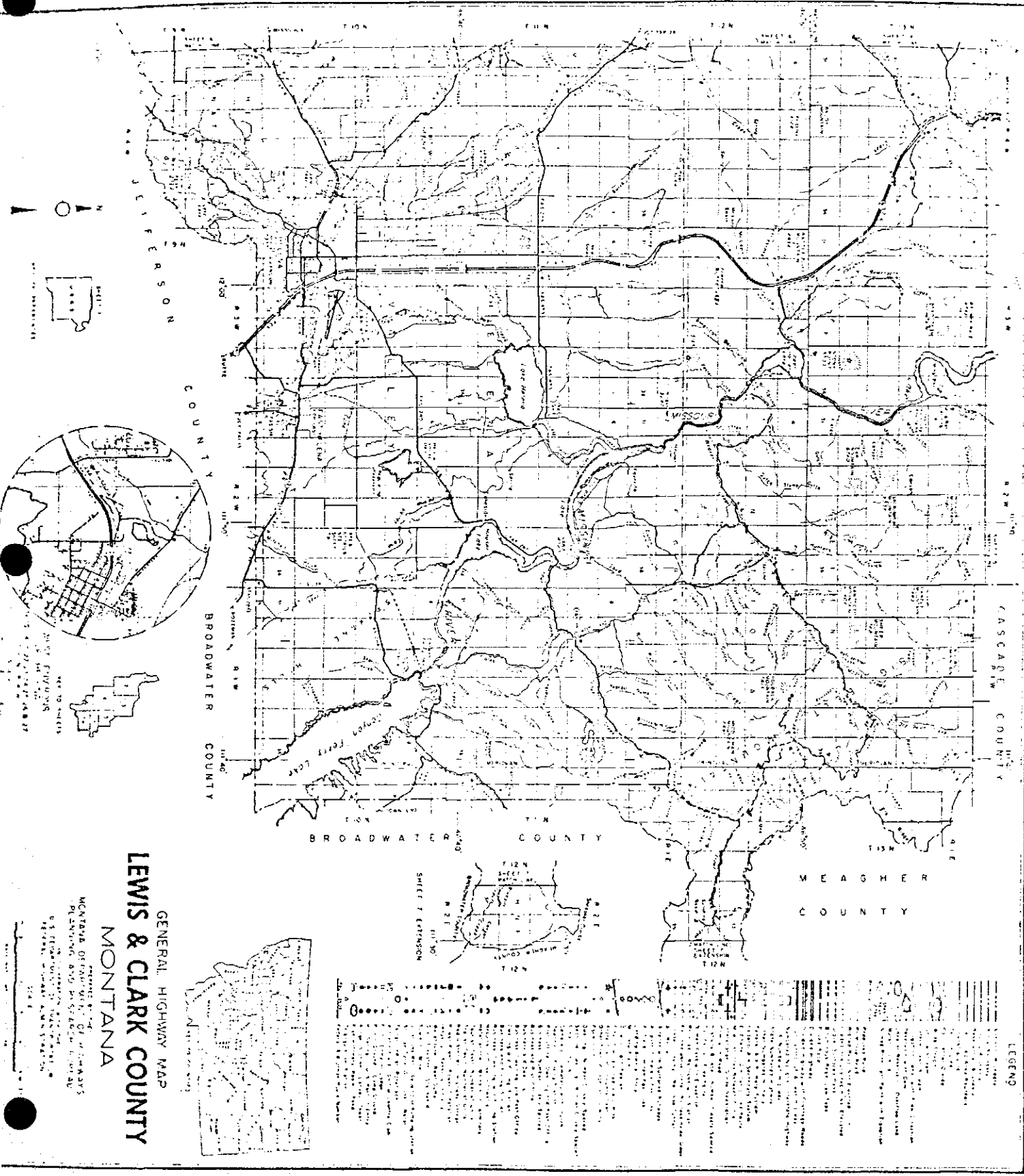
Resolved, that the said County of Lewis & Clark does hereby accept the bridge built by the Minneapolis Steel & Machinery Company across the Missouri River in said county, as being in

all respects complete and satisfactory to said County and to its Board of County Commissioners and as complying in all respects with the requirement of that certain contract dated June 19, 1906, between said Minneapolis Steel & Machinery Company, party of the first part, the County of Lewis & Clark, the party of the second part, and the Helena Power Transmission Company, party of the third part under which the said bridge was built, And be it further resolved, that a copy of this resolution be forwarded to the Helena Power Transmission Company as notice to it of the acceptance by said County of said bridge and as authority to said Helena Power Transmission Company to pay said Minneapolis Steel and Machinery the amount due to said company from said Helena Power Transmission Company under said contract."<sup>17</sup>

It was, then, as a result of extensive discussion, compromise and cooperation among officers of the H.P.T. Co. and Lewis and Clark County Commissioners that the York Bridge was built. Its construction facilitated the transportation of goods and people between Helena and the Belt Mountains, and was closely tied to the building of Hauser Dam and development of Montana's hydroelectric resources. The availability of electrical power had significant social, economic and technological impacts in Montana, not the least of which was the continued development and augmented productivity of the state's copper mining industry.

FODTNDTES

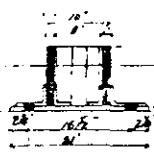
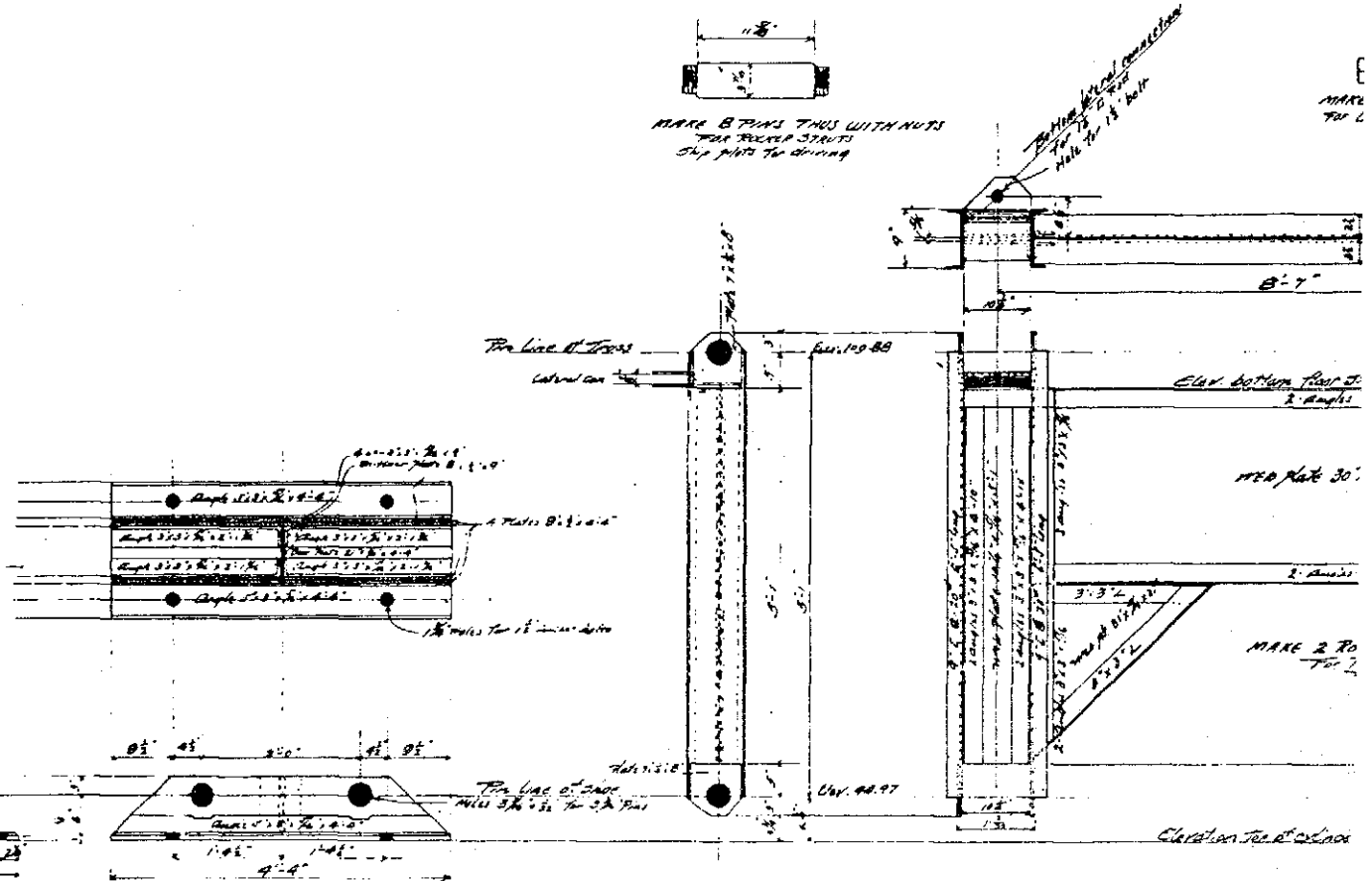
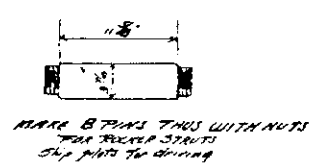
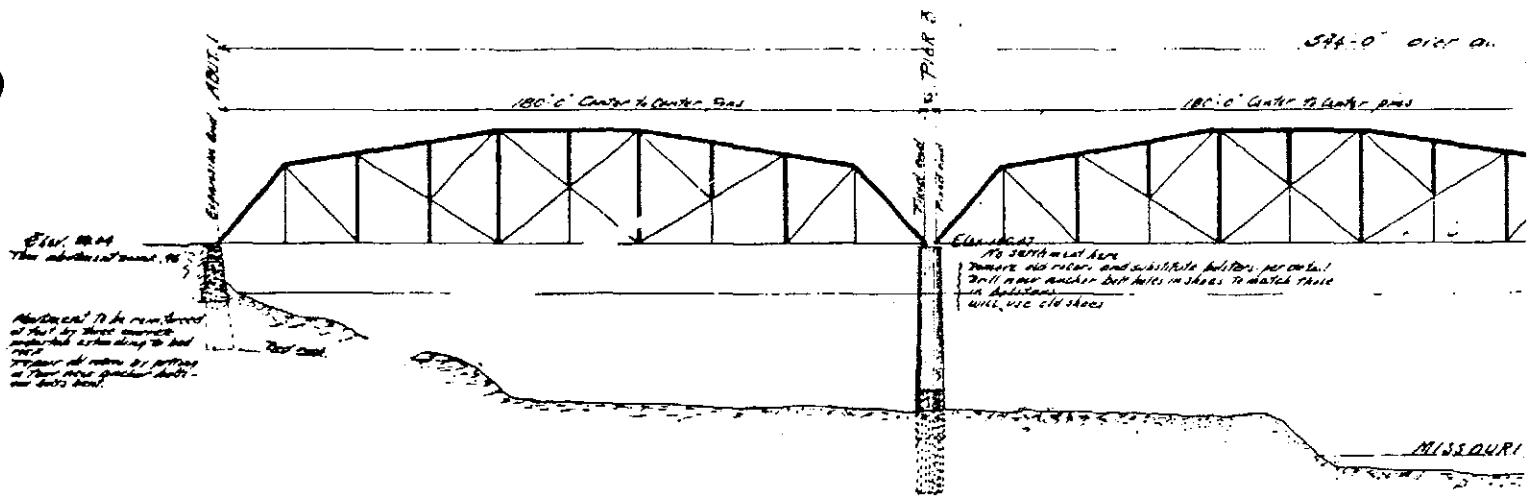
1. Minutes of the Lewis & Clark County Commissioners meeting, May 9, 1906. On file, Lewis & Clark County Courthouse, Helena, MT.
2. Minutes of the Lewis & Clark County Commissioners meeting, June 19, 1906. On file Lewis & Clark County Courthouse, Helena, MT.
3. "Report of Investigation of Pier #2, York Bridge." Inspector M. R. Tucker, P.E. Report on file, Montana Department of Highways. 1978
4. R. G. Raymer, Montana: The Land and the People. (Chicago and New York: The Lewis Publishing Co., 1930), Vol I, p.410.
5. Raymer, Montana, Vol. I, p.275.
6. D. Hampton and W. E. Farr, Historical Resources of Montana (Missoula: University of Montana, 1974).
7. J. T. Pardee and F. C. Schrader, "Metalliferous Deposits of the Greater Helena Mining Region." U.S.G.S. Bulletin 842.
8. P. L. Steere, "Cultural Resources Inventory and Evaluation: DP 28D-1(1), York Bridge." Report on file, Montana Department of Highways and Montana Historical Society. 1978, p.4.
9. Letter from R. N. Appling, Jr., Chief of Western Field Operation Center, U.S. Department of the Interior, Bureau of Mines, to S. C. Kologi, Chief, Preconstruction Bureau, Montana Department of Highways, Feb. 17, 1974.
10. Minutes of the Lewis & Clark County Commissioners meeting, March 9, 1906. On file, Lewis and Clark County Courthouse, Helena, MT.
11. Samuel T. Hauser Papers, Collection Number 37, Box #28, Folder #38. Archives, Montana Historical Society.
12. Ibid.
13. Ibid.
14. Samuel T. Hauser Papers, Collection Number 37, Box #33, Folder #8. Archives, Montana Historical Society.
15. Minutes of the Lewis & Clark County Commissioners meeting, May 9, 1906. On file, Lewis & Clark County Courthouse, Helena, MT.
16. Minutes of the Lewis & Clark County Commissioners meeting. On file, Lewis & Clark County Courthouse, Helena, MT.
17. Minutes of the Lewis & Clark County Commissioners meeting. On file, Lewis & Clark County Courthouse, Helena, MT.



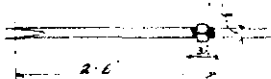
**GENERAL HIGHWAY MAP  
LEWIS & CLARK COUNTY  
MONTANA**

PROPERTY OF THE  
MONTANA DEPARTMENT OF HIGHWAYS  
PLANNING AND DESIGN DIVISION  
1000 EAST 17TH AVENUE  
SPOKANE, MONTANA 59202  
1984

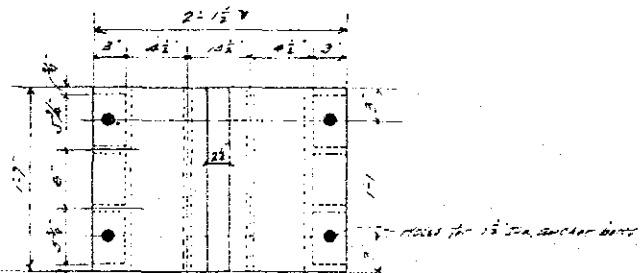




MAKE 2 SHOES THUS  
For Ricker Struts Per 4

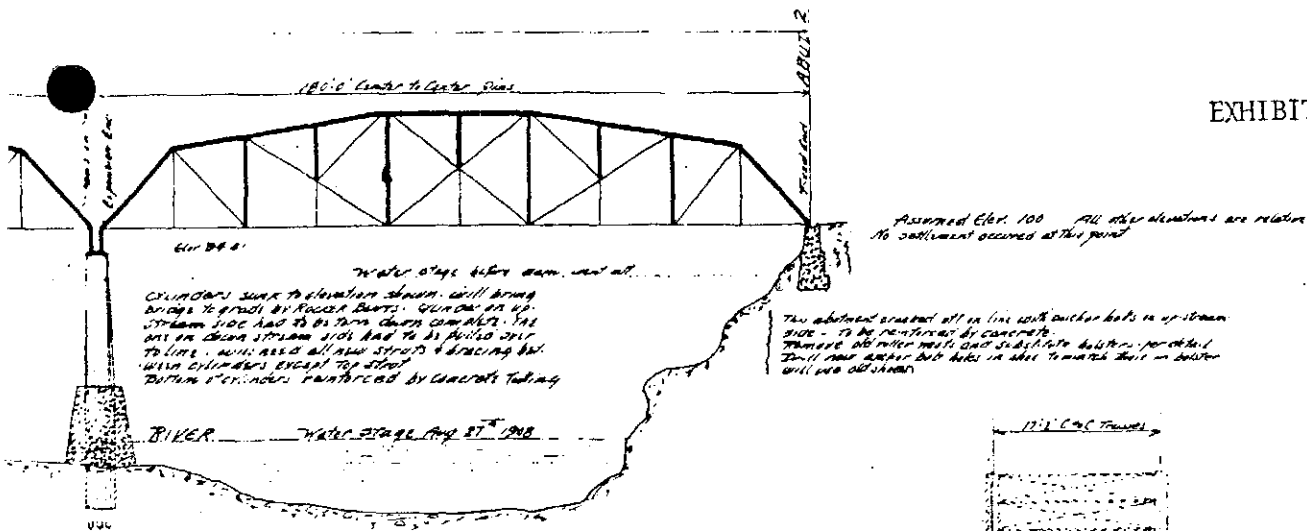


MAKE 32 ANCHOR BOLTS THUS: WITH WEDGES  
4 - For Abut. 1  
12 - For 3  
8 - 4  
8 - Abut. 2

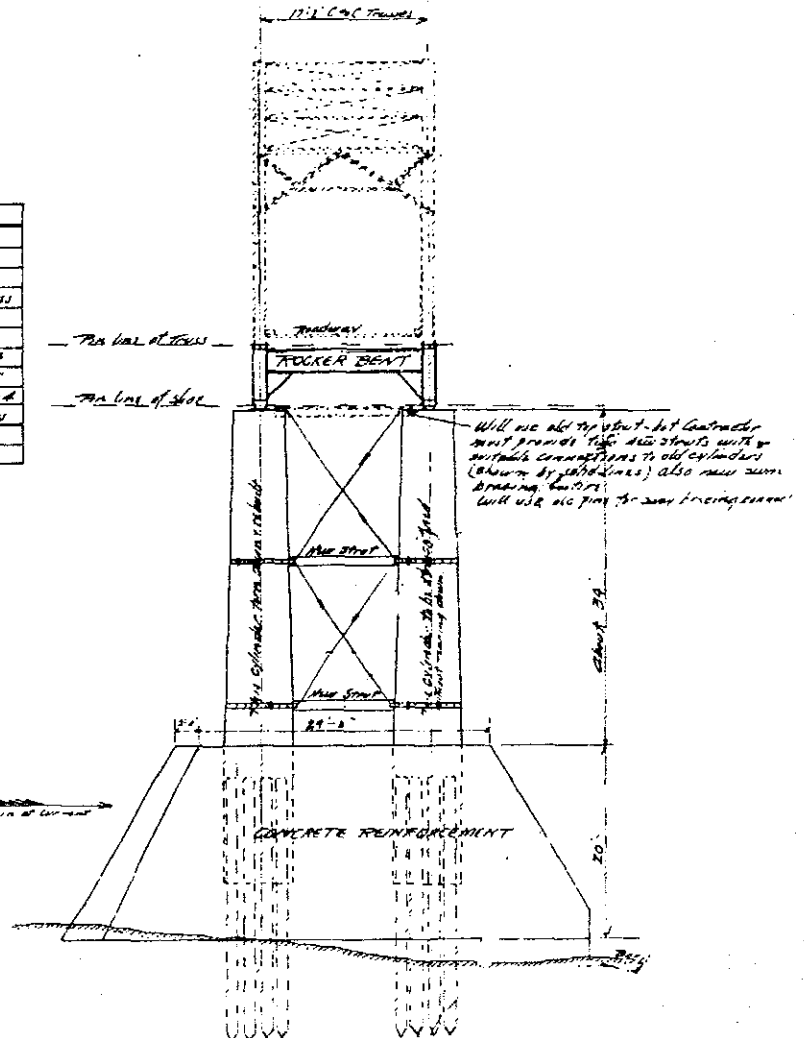
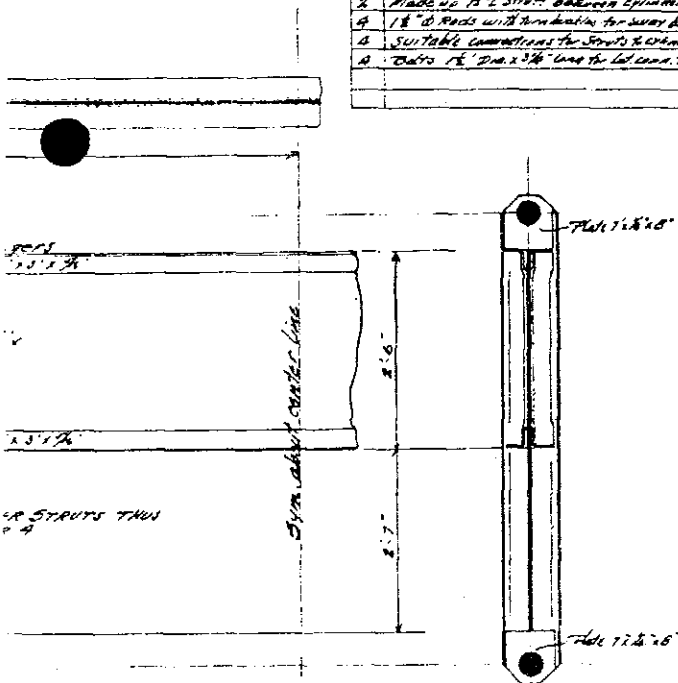
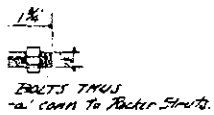


MAKE 4 CISTERNS THIS W.

## EXHIBIT 3



NO.	Description
2	Rector Struts & Pins 2
2	Shoes for Rector Struts - 1 each
32	Analoge Bolts 18 Dia. x 2 1/2" long with washers
2	Pins 3/8" dia. with pilot for drawing
1	Expansion Plate 12" x 8" x 15" long
2	Made up 13" x 13" sheet of stainless cylinders Part 2
4	18" O. Rods with thru drilling for heavy drawing
4	Suitable connections for Struts & Expansion Pins
2	Bolts 1 1/2" Dia. x 3 1/2" long the full length to Rectors



RECONSTRUCTION OF TROUT CREEK BRIDGE  
OVER HAUSER LAKE

SHOWING DETAILS OF ROCKER BENTS, SHOES, STAPLS, BRACING, ETC.  
LEWIS AND CLARK COUNTY - MONTANA.

GEORGETOWN, MARYLAND 4669  
-55- 1968

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